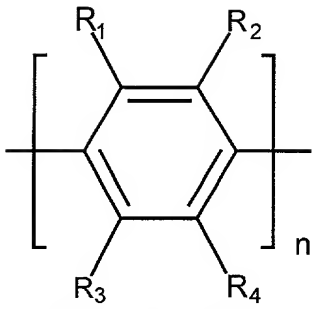
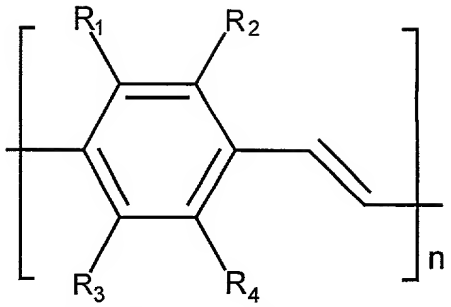
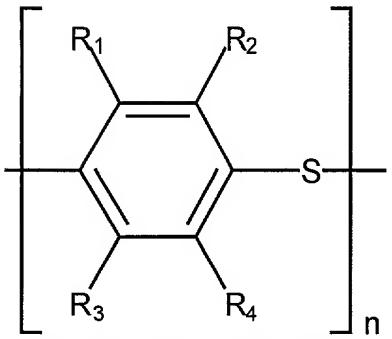


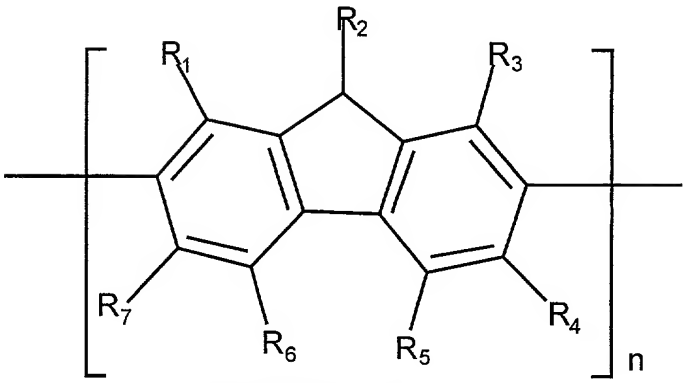
Polyphenylene



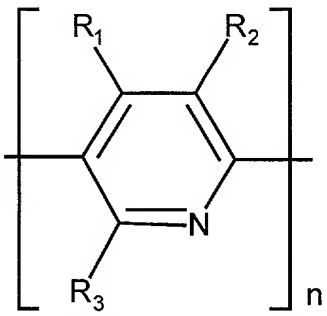
Polyphenylenevinylene



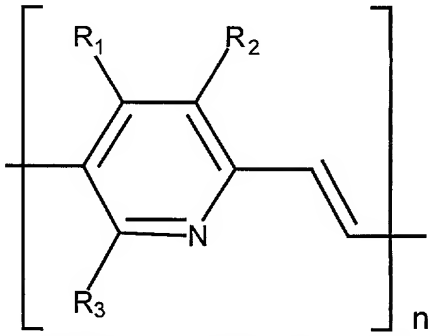
Polyphenylenesulfide



Polyfluorene

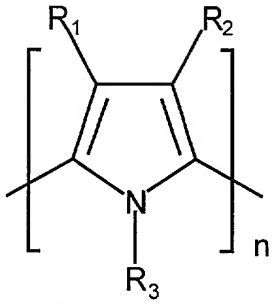


Poly(p-pyridine)

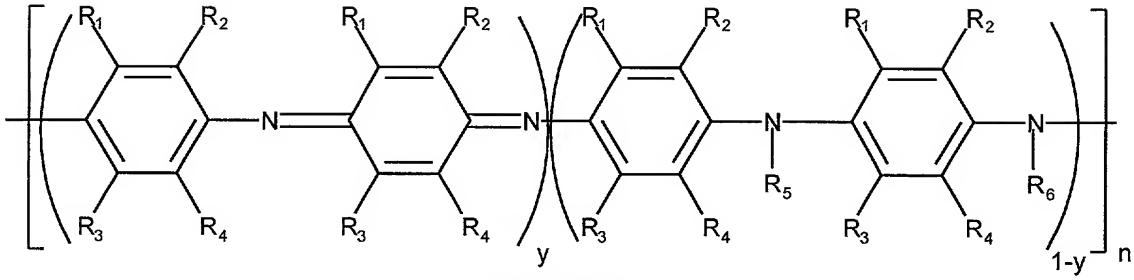


Poly(p-pyridalvinylene)

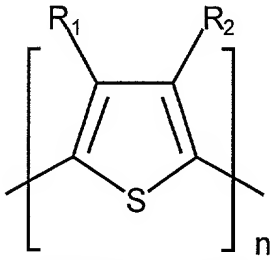
Fig. 1a



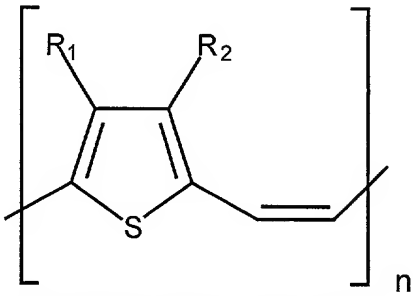
Polypyrrole



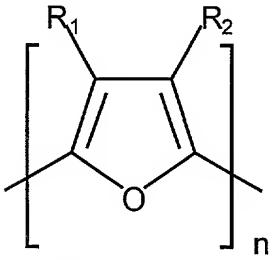
Polyaniline



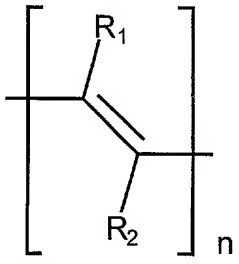
Polythiophene



Polythiophenevinylene

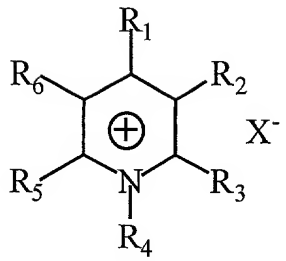


Polyfuran

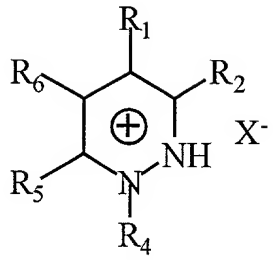


Polyacetylene

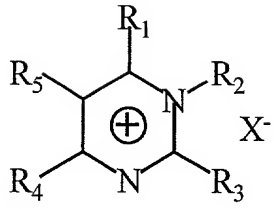
Fig. 1b



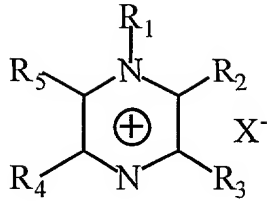
Pyridinium



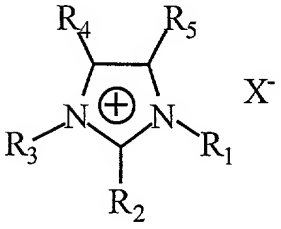
Pyridazinium



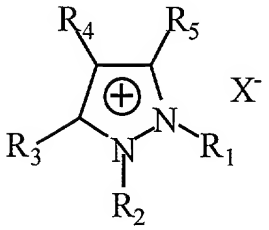
Pyrimidinium



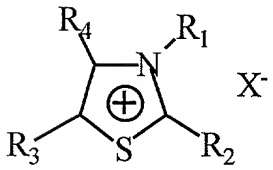
Pyrazinium



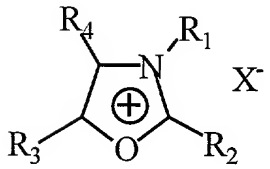
Imidazolium



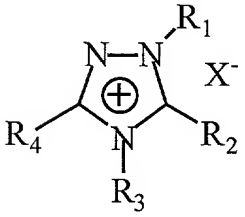
Pyrazolium



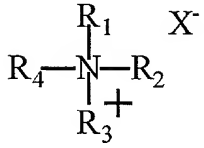
Thriazolium



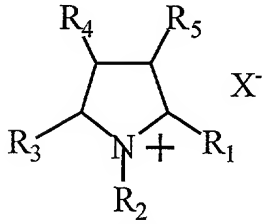
Oxazolium



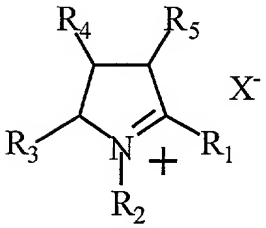
Triazolium



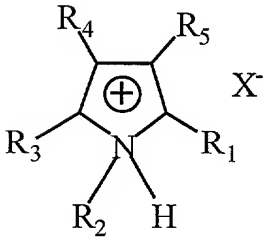
Ammonium



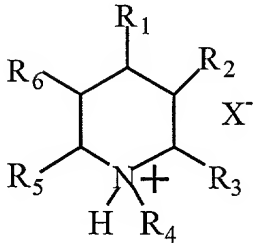
Pyrrolidinium



Pyrrolinium

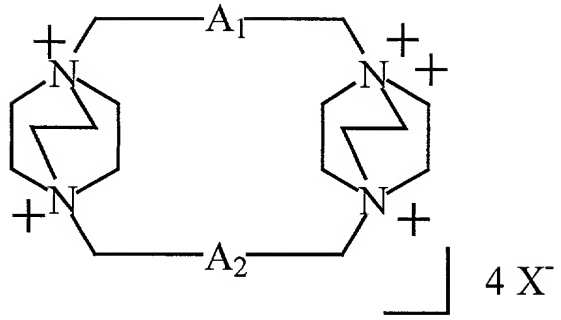


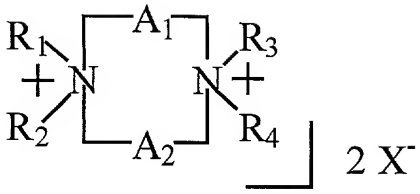
Pyrrolium

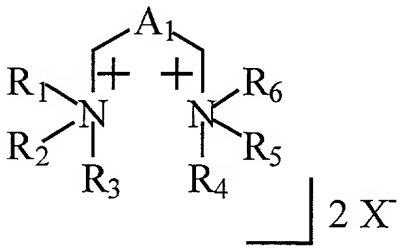


Piperidinium

Fig. 1c


A1
A2
4 X-


R1
R2
R3
R4
A1
A2
2 X-


A1
R1
R2
R3
R4
R5
R6
2 X-

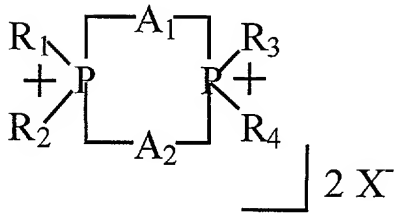

R1
R2
R3
R4
A1
A2
2 X-

Fig. 1d

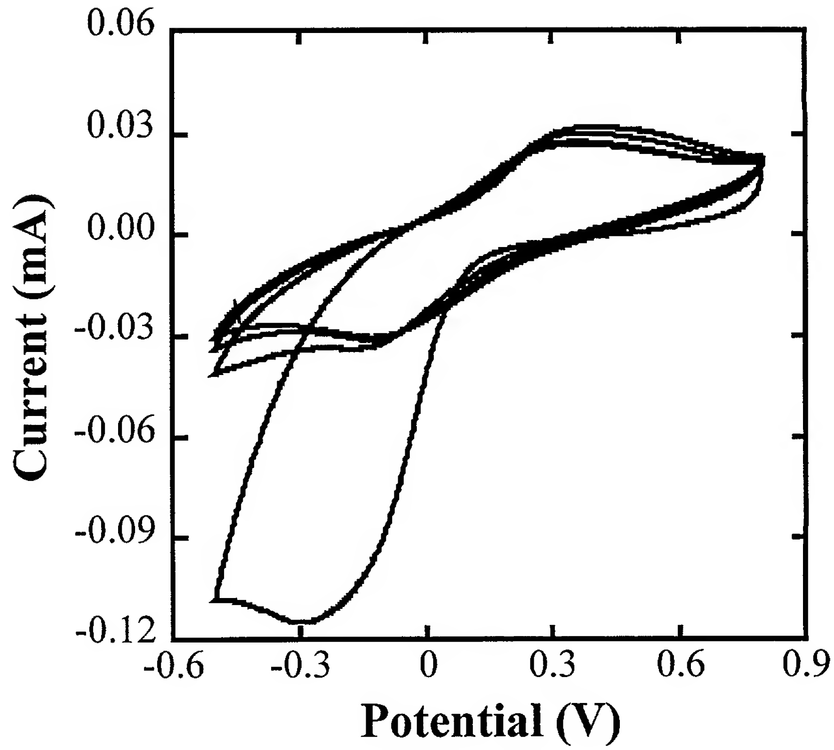

Current (mA)
0.06
0.03
0.00
-0.03
-0.06
-0.09
-0.12
-0.6
-0.3
0
0.3
0.6
0.9
Potential (V)

Fig. 2a

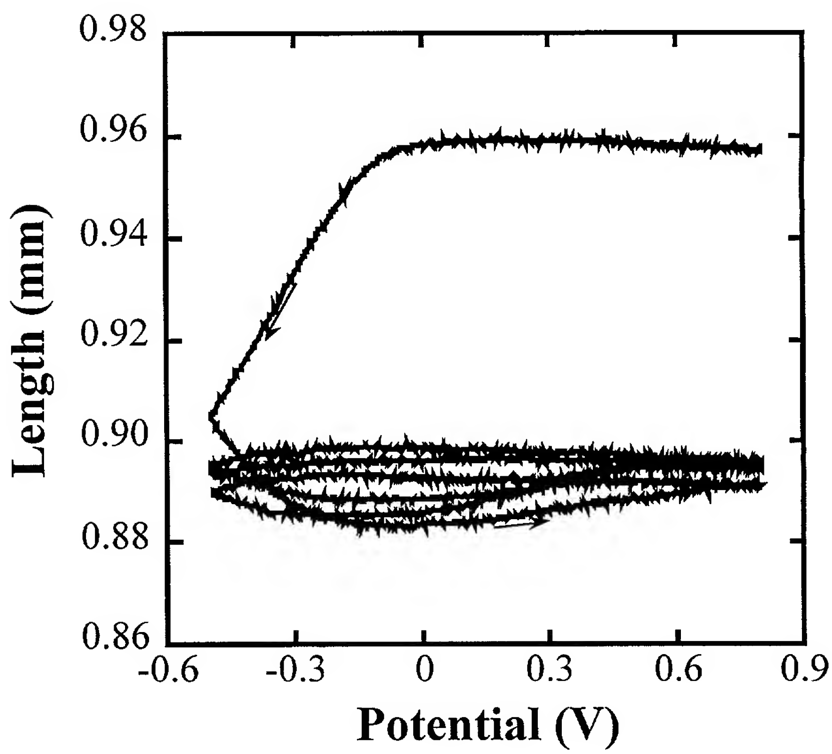

Length (mm)
0.98
0.96
0.94
0.92
0.90
0.88
0.86
-0.6
-0.3
0
0.3
0.6
0.9
Potential (V)

Fig. 2b

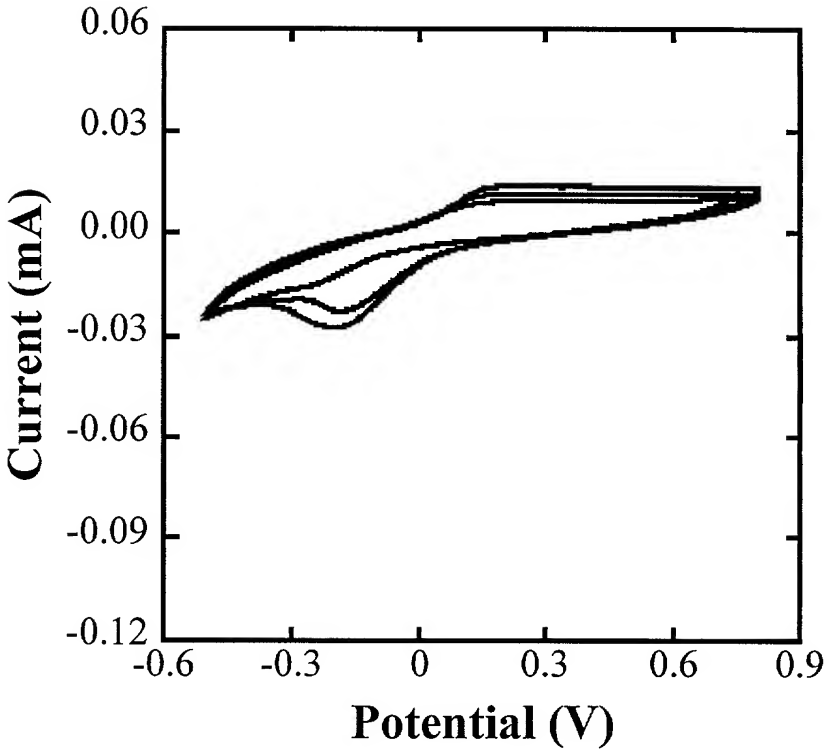

0.06
0.03
0.00
-0.03
-0.06
-0.09
-0.12
Current (mA)
-0.6
-0.3
0
0.3
0.6
0.9
Potential (V)

Fig. 2c

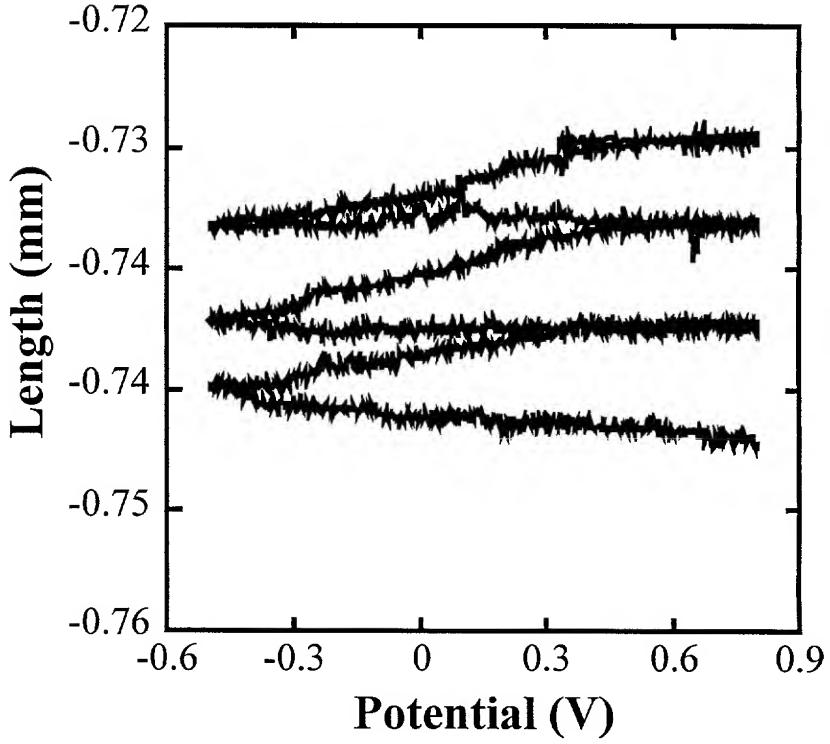

-0.72
-0.73
-0.74
-0.74
-0.75
-0.76
Length (mm)
-0.6
-0.3
0
0.3
0.6
0.9
Potential (V)

Fig. 2d

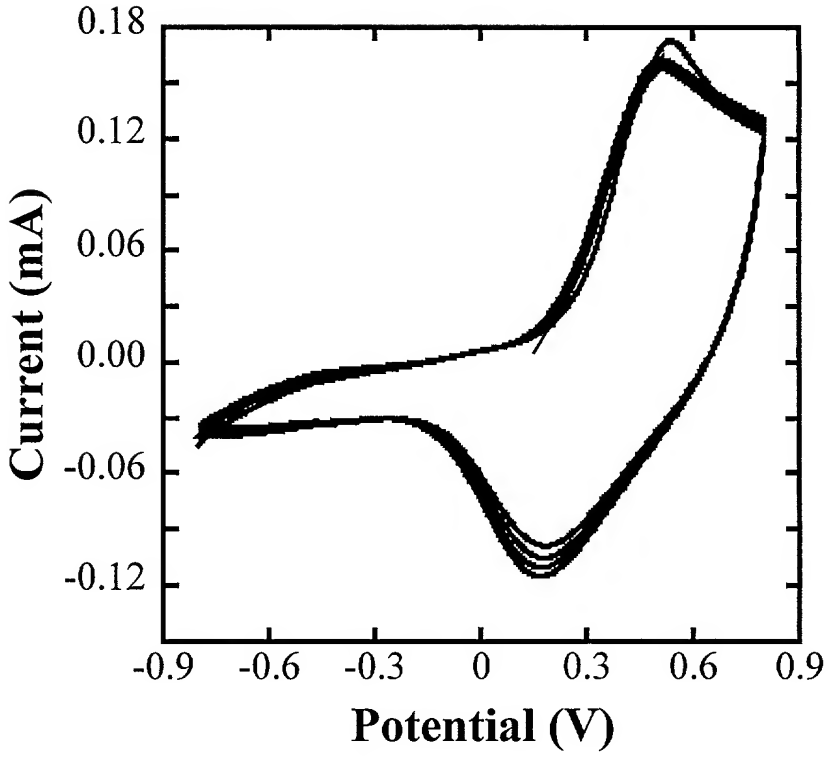


Fig. 3a

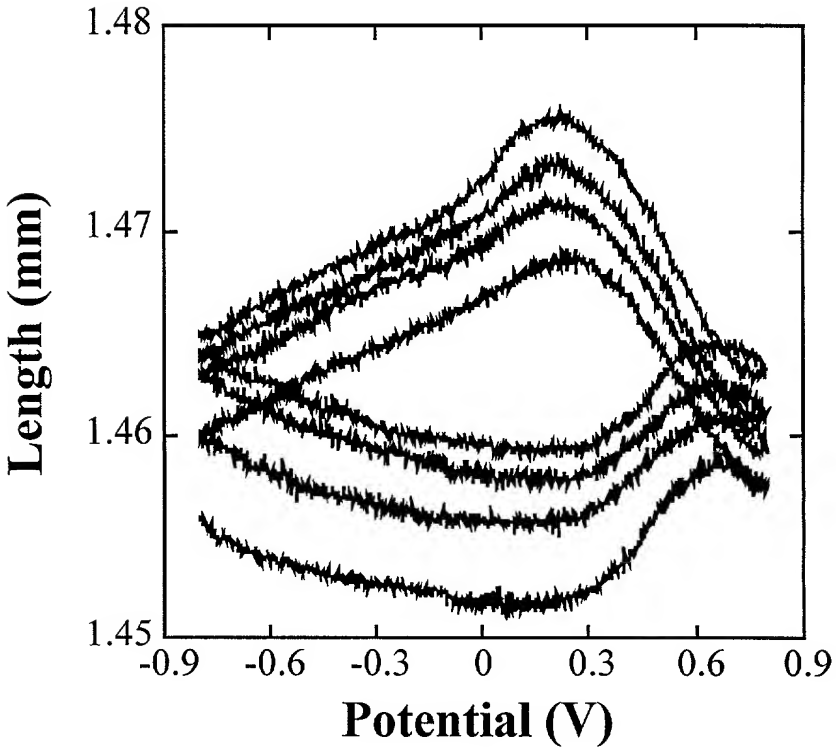


Fig. 3b

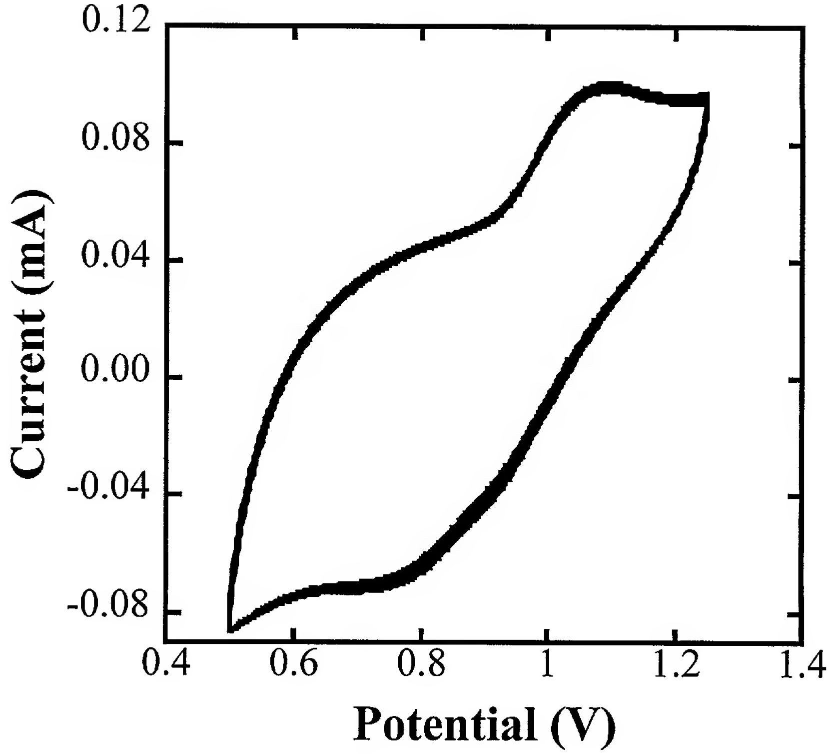

Current (mA)
0.12
0.08
0.04
0.00
-0.04
-0.08
0.4
0.6
0.8
1
1.2
1.4
Potential (V)

Fig. 3c

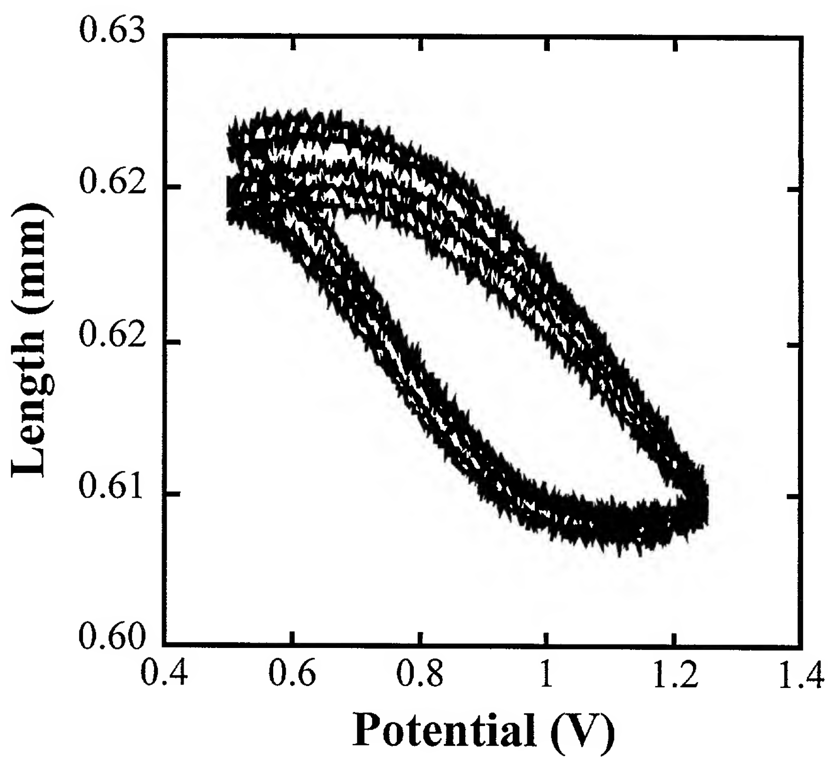

Length (mm)
0.63
0.62
0.62
0.61
0.60
0.4
0.6
0.8
1
1.2
1.4
Potential (V)

Fig. 3d

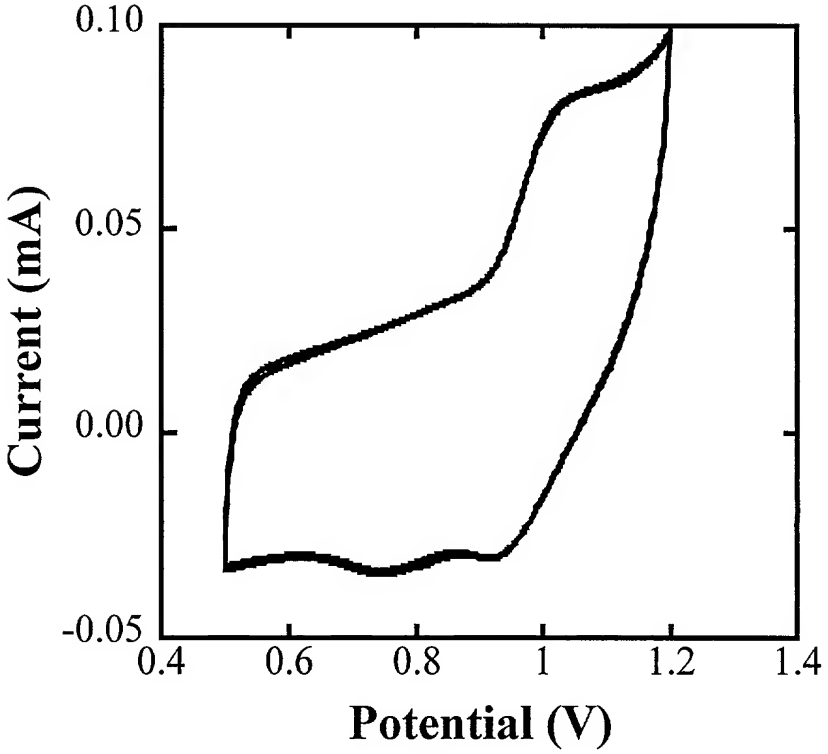


Fig. 3e

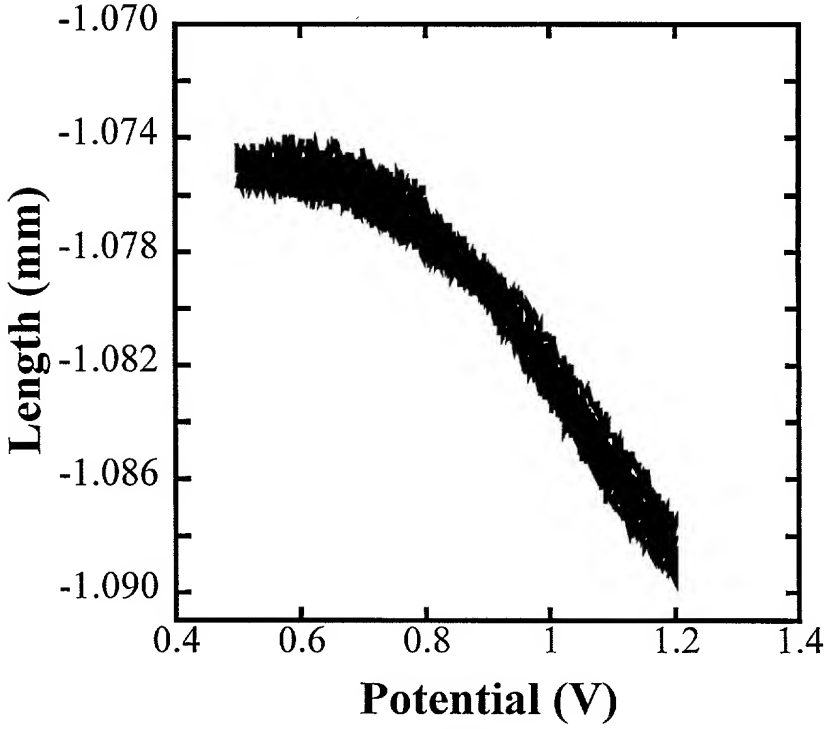


Fig. 3f

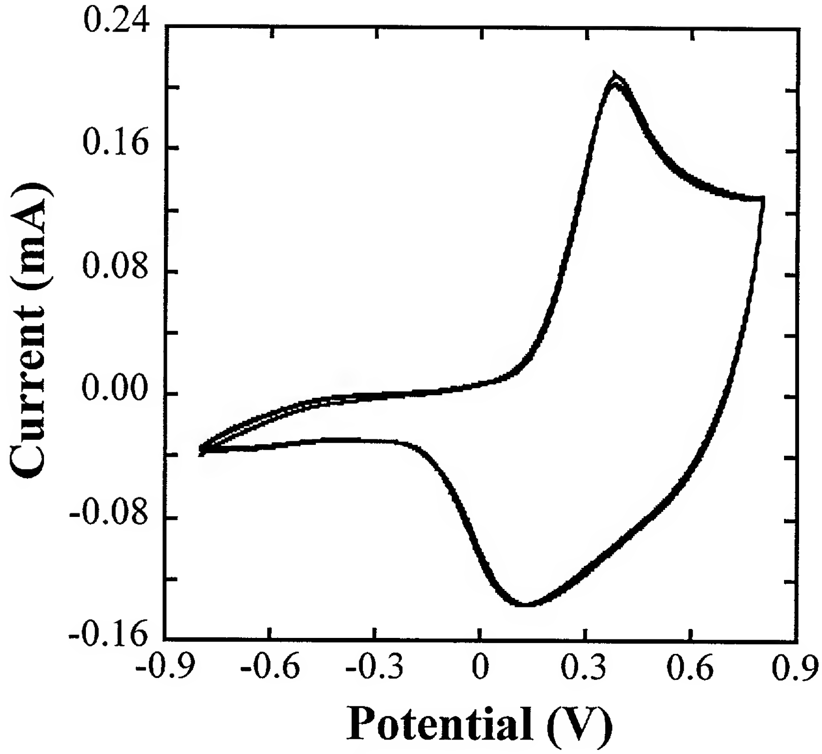


Fig. 4a

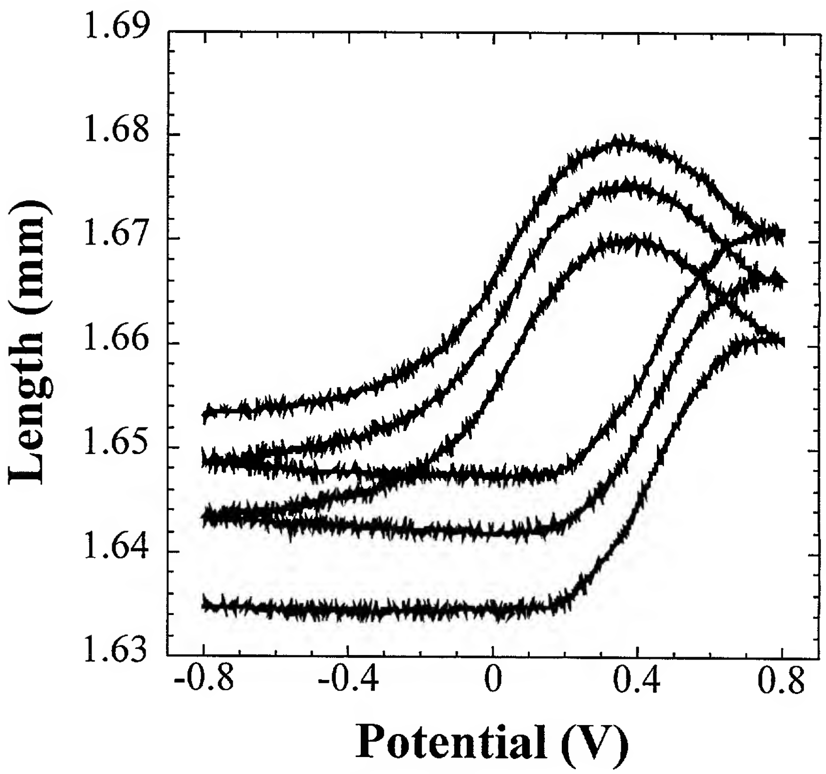


Fig. 4b

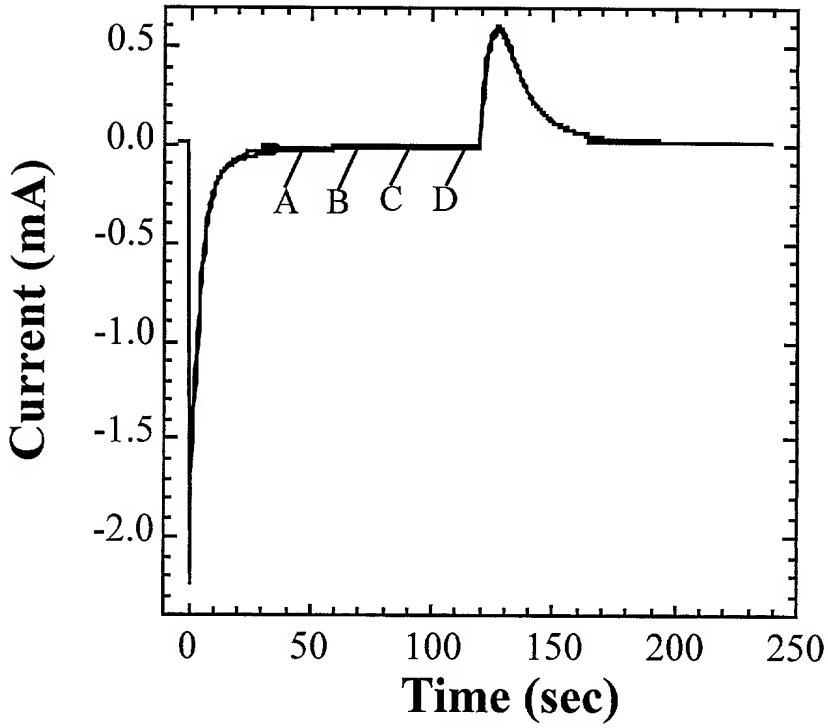

0.5
0.0
-0.5
-1.0
-1.5
-2.0
Current (mA)
A
B
C
D
0
50
100
150
200
250
Time (sec)

Fig. 5a

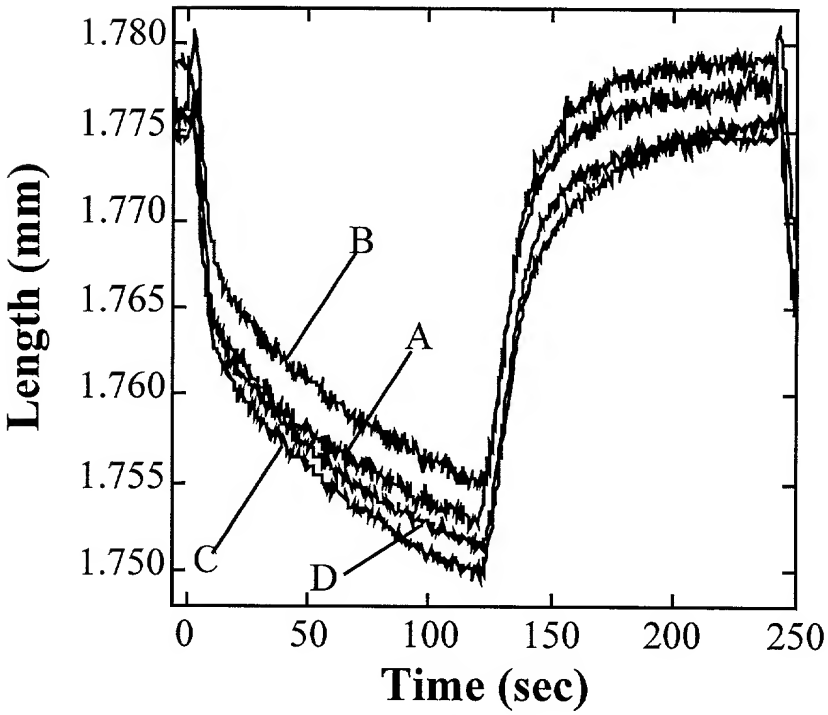

1.780
1.775
1.770
1.765
1.760
1.755
1.750
Length (mm)
B
A
C
D
0
50
100
150
200
250
Time (sec)

Fig. 5b

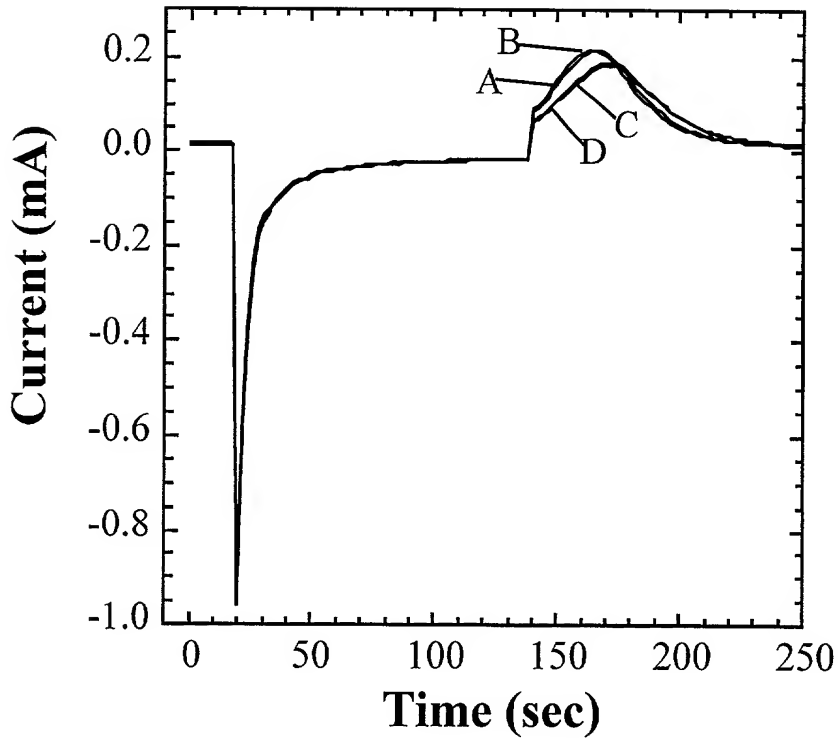

0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
Current (mA)
0
50
100
150
200
250
Time (sec)
A
B
C
D

Fig. 6a

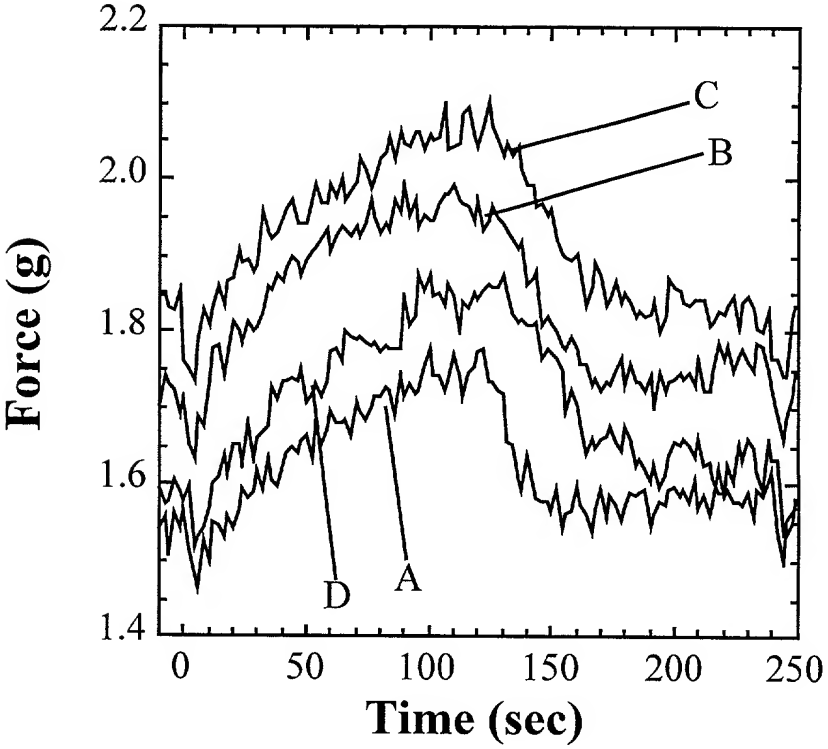

2.2
2.0
1.8
1.6
1.4
Force (g)
0
50
100
150
200
250
Time (sec)
A
B
C
D

Fig. 6b

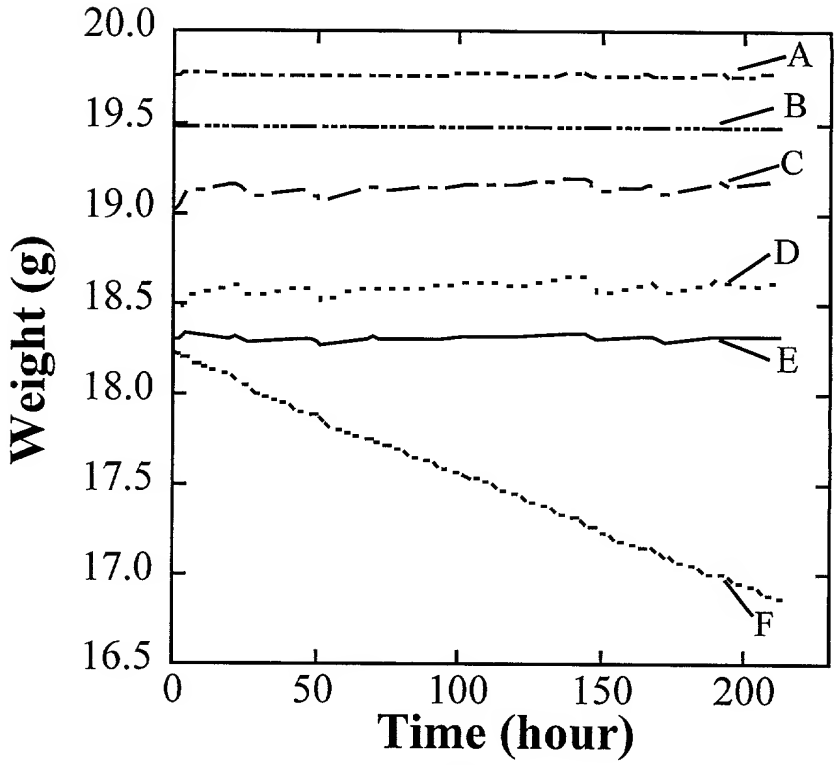

20.0
19.5
19.0
18.5
18.0
17.5
17.0
16.5
Weight (g)
0
50
100
150
200
Time (hour)
A
B
C
D
E
F

Fig. 7a

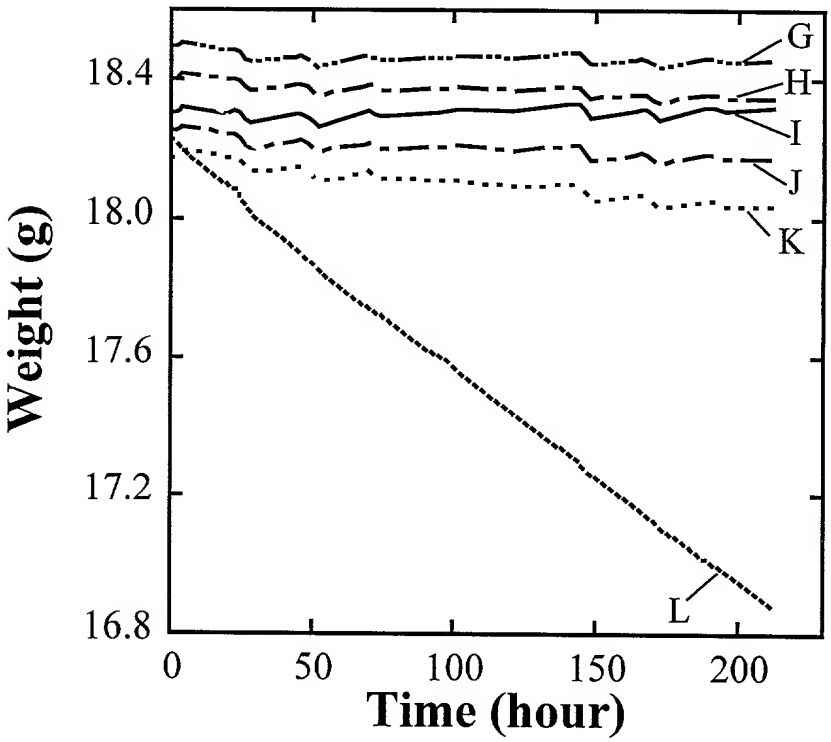

18.4
18.0
17.6
17.2
16.8
Weight (g)
0
50
100
150
200
Time (hour)
G
H
I
J
K
L

Fig. 7b

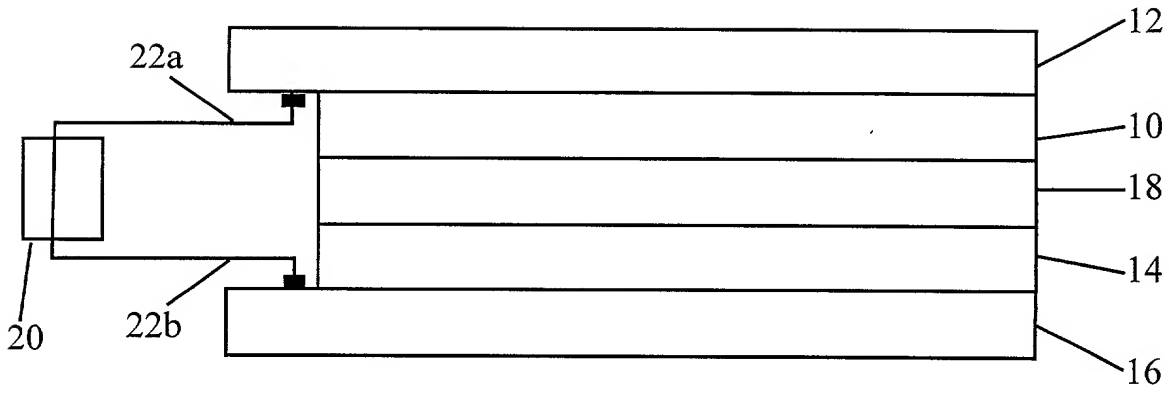


Fig. 8

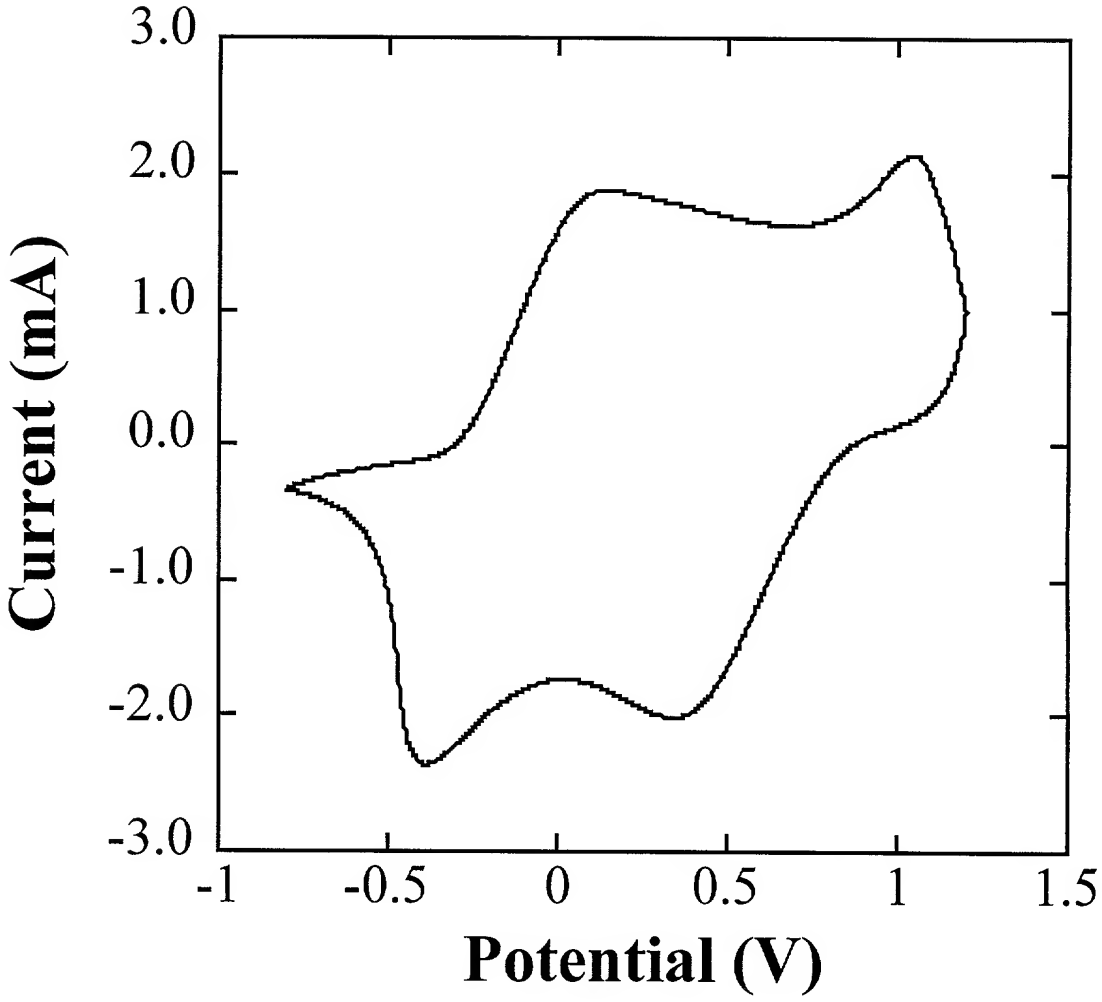


Fig. 9

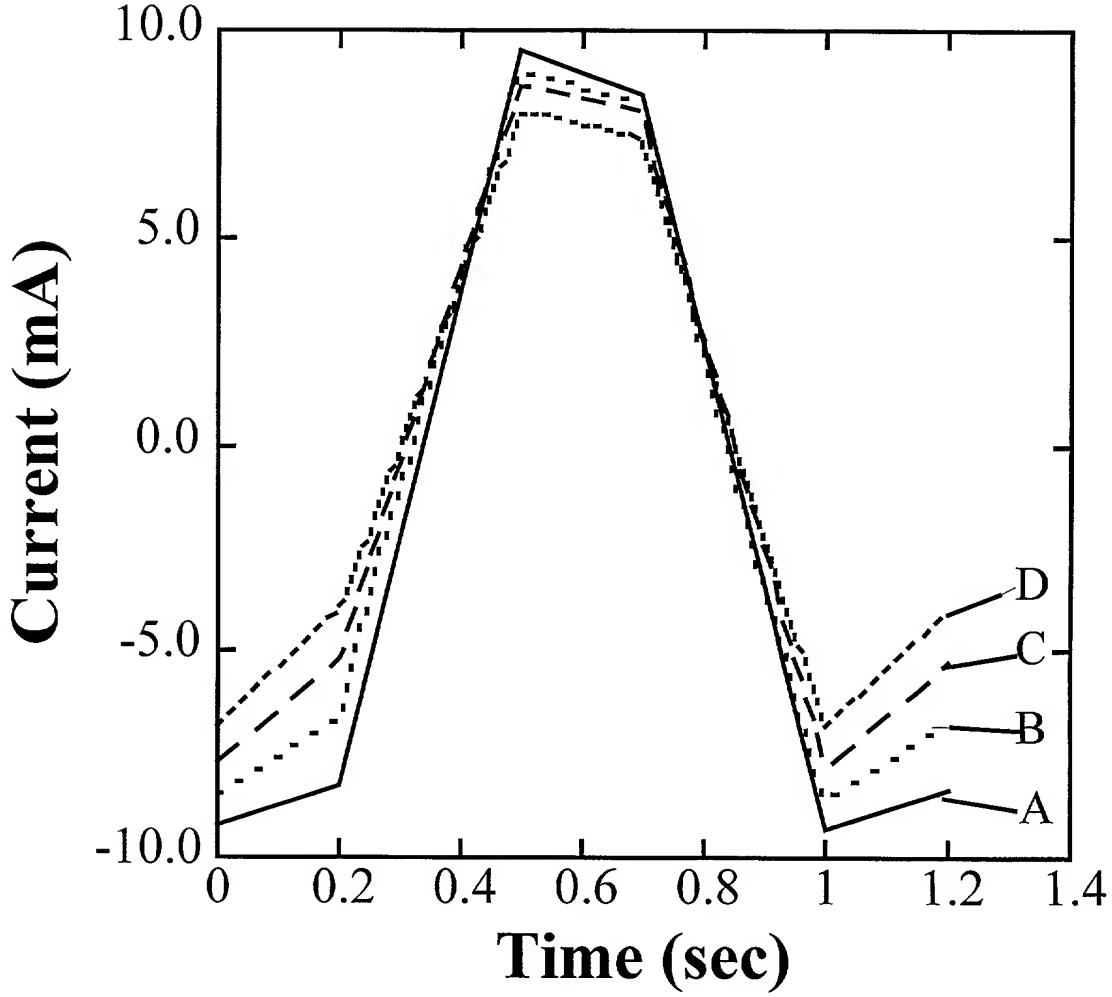


Fig. 10

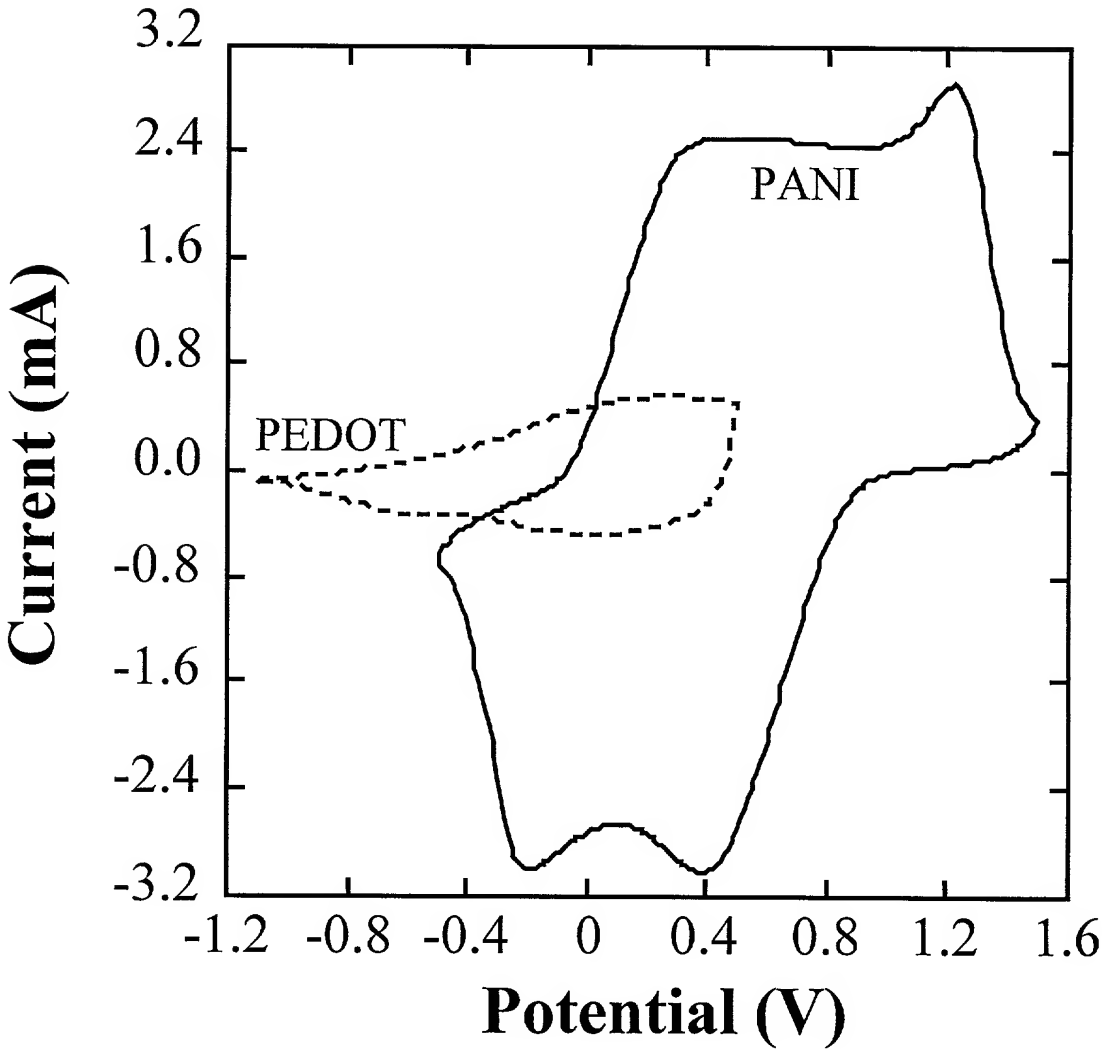

3.2
2.4
1.6
0.8
0.0
-0.8
-1.6
-2.4
-3.2
Current (mA)
PANI
PEDOT
-1.2
-0.8
-0.4
0
0.4
0.8
1.2
1.6
Potential (V)

Fig. 11

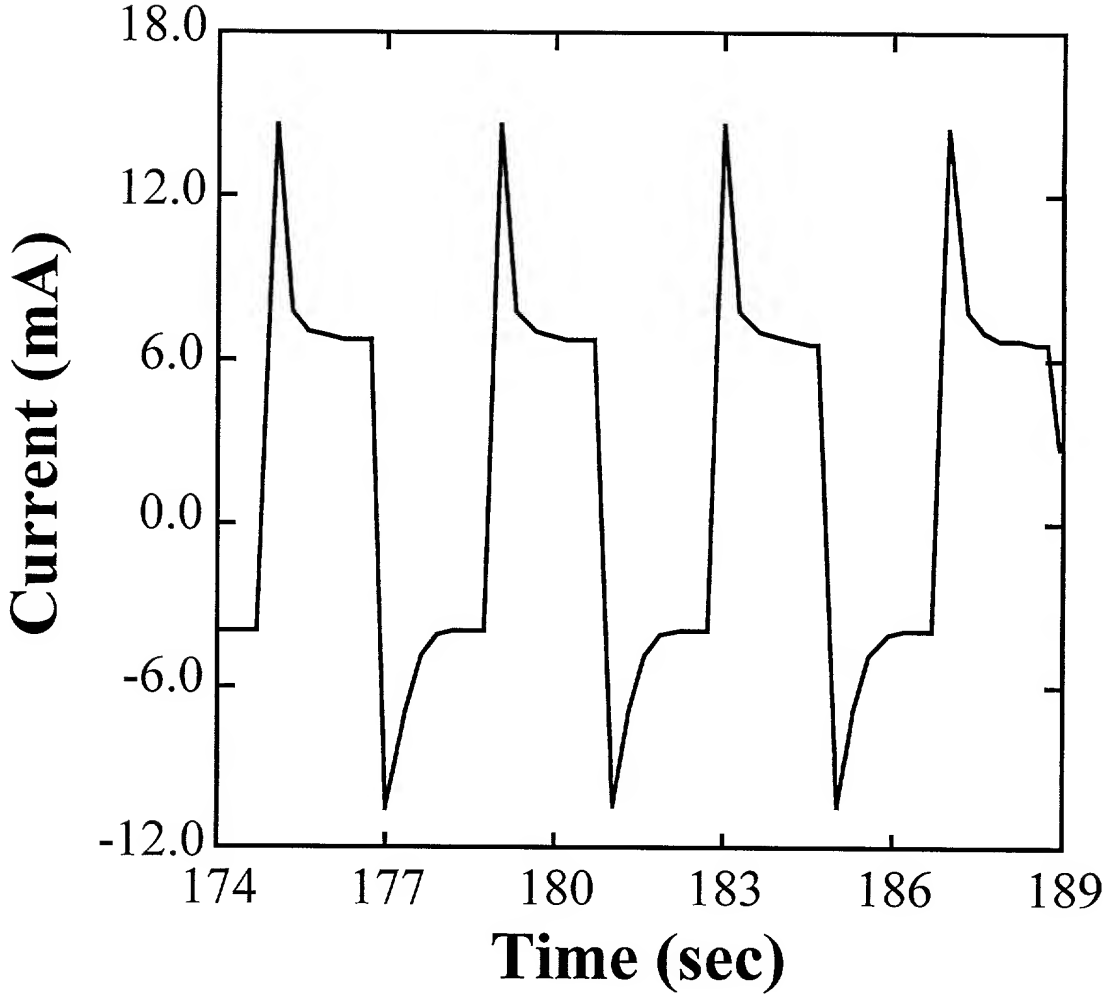


Fig. 12

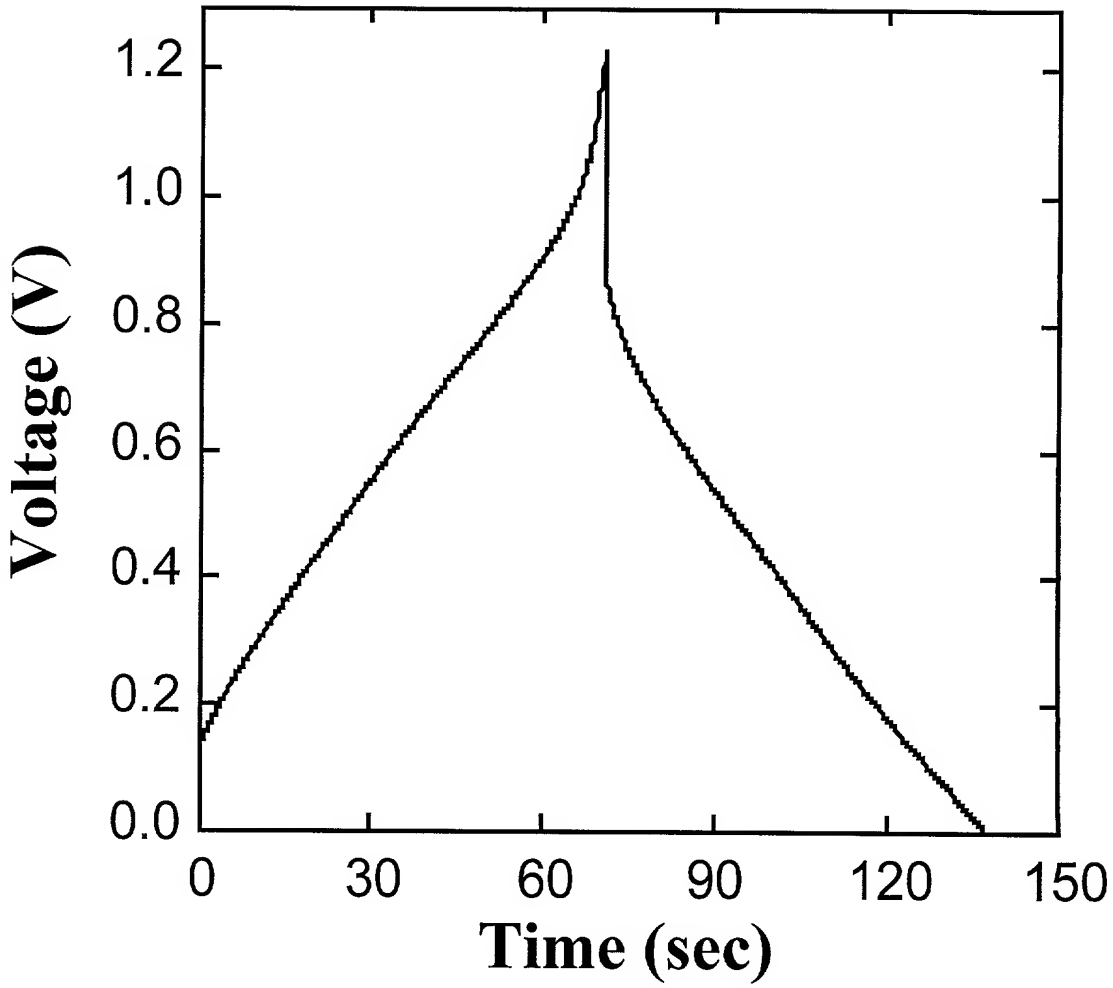


Fig. 13